



# NGS FOR ONCOLOGY: A MORE EFFICIENT TUMOR PROFILING METHOD

Those conducting translational or clinical research in oncology should have access to the most efficient way of profiling hematological and solid tumors. Next-Generation Sequencing (NGS) can help you avoid costly iterative testing while simultaneously reducing the risk of depleting your samples.

## SEQUENCE JUST ONCE

Say you're investigating colorectal cancer, targeting mutations in KRAS, NRAS, and BRAF genes — NGS makes analysis simple and efficient:

### KRAS

qPCR  
Exon 2 (codons 12 and 13) and Exon 3 (codon 61)  
PYROSEQUENCING  
Exon 3 (codon 59) and Exon 4 (codons 117 and 146)

### NRAS

PYROSEQUENCING  
Exon 2 (codons 12 and 13), Exon 3 (codons 59 and 61), and Exon 4 (codons 117 and 146)

### BRAF

qPCR  
V600E, D, K, and R

That's  
**18 REACTION MIXTURES**  
across 2 different technologies



### KRAS, NRAS, AND BRAF

NGS covers all of the above codons



With NGS, you could assess everything with  
**2 REACTION MIXTURES**



## SAVE ON SAMPLE MATERIAL

This leaves more sample material available for further investigation, if necessary

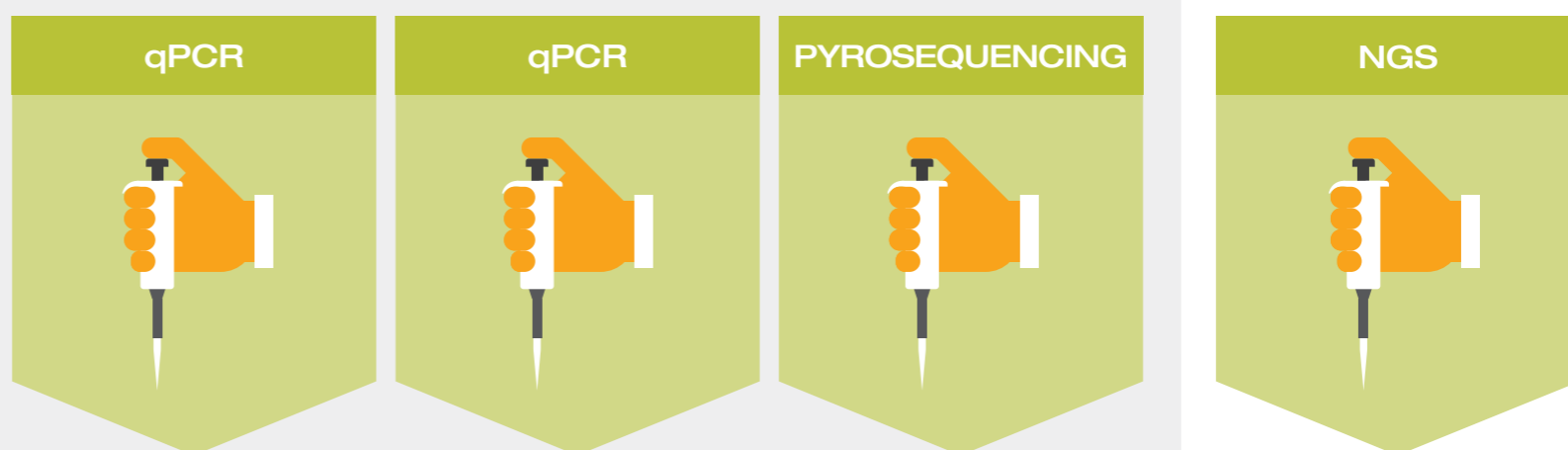
qPCR + Pyrosequencing:  
**100ng**

NGS:  
**20ng**

## MINIMIZE WORKFLOW PROTOCOLS

Non-NGS analysis would require maintaining 3 workflow protocols — 2 for qPCR and 1 for pyrosequencing

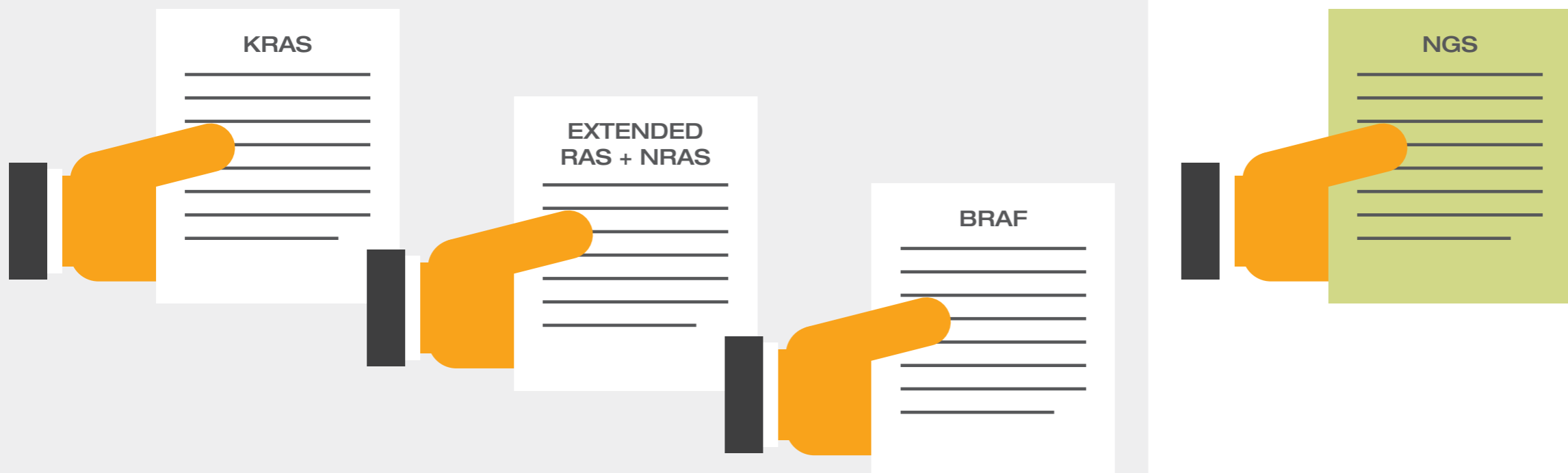
NGS would require maintaining only a single workflow protocol



## SIMPLIFY REPORTING

Between qPCR and pyrosequencing, you would need to consolidate 3 different reports, one for each assessment

With NGS, you would get one report inclusive of all relevant genes



## COVERING WHAT YOU NEED

NGS makes all this possible by covering what you need — take KRAS, for example:

qPCR assays generally only cover a limited number of codons, like 12 and 13

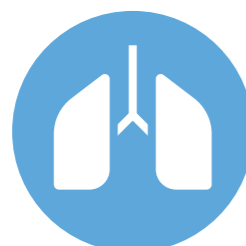


The TruSight® Tumor 15 NGS assay, on the other hand, covers RAS codons 12, 13, 59, 61, 117, and 146



## A SINGLE ASSAY, A SINGLE WORKFLOW

The TruSight® Tumor 15 NGS assay enables you to report on any of the following genes with a single workflow:



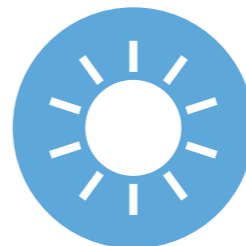
### LUNG

EGFR, BRAF, KRAS, ERBB2



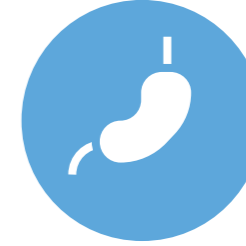
### COLON

BRAF, KRAS, NRAS



### MELANOMA

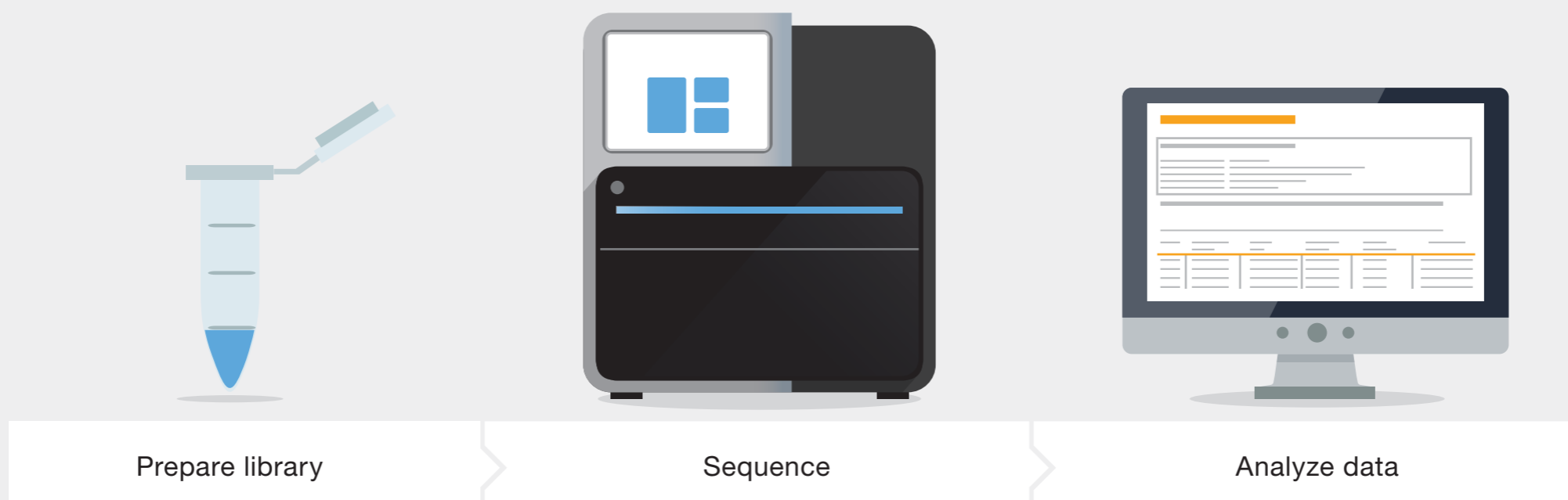
BRAF, KIT



### GASTRIC

KRAS, KIT, PDGFRα

TruSight® Tumor 15 interrogates a broad range of solid tumor cancer genes — not just one biomarker or a limited set of mutations



Learn more about how NGS is being applied in oncology:  
[www.illumina.com/cancer](http://www.illumina.com/cancer)